

State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas

001.03138

Well Operator's Report of Well Work

Farm name: BIGELOW LODGE Operator Well No.: 10

LOCATION: Elevation: 1595' Quadrangle: THORNTON

District: COVE County: BARBOUR  
Latitude: 14.270 Feet South of 39 Deg. 17 Min. 30 Sec.  
Longitude: 1.280 Feet West of 79 Deg. 52 Min. 30 Sec.

Company: Texas Keystone, Inc.

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
560 Epsilon Drive Pittsburgh, PA 15238				
Agent: <u>Jon Farmer</u>	13 3/8"	42	42	Sanded In
Inspector: <u>Bryan Harris</u>				
Date Permit Issued: <u>07/12/10</u>	9 5/8"	463	463	180
Date Well Work Commenced: <u>09/26/11</u>				
Date Well Work Completed: <u>10/03/11</u>	7"	1777	1777	225
Verbal Plugging:				
Date Permission granted on:	4 1/2"	0	5193	180
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft.): <u>5630</u>				
Total Measured Depth (ft.): <u>5630</u>				
Fresh Water Depth (ft.): <u>245, 764</u>				
Salt Water Depth (ft.): <u>none reported</u>				
Is coal being mined in the area (N/Y)? <u>N</u>				
Coal Depths (ft.): <u>none reported</u>				
Void(s) encountered (N/Y) Depth(s): <u>N</u>				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation: 3RD ELK Pay zone Depth (ft) 5046 - 5066  
Gas: Initial open flow: G/S TSTM MCF/D Oil: Initial open flow: 0 Bbl/d  
Final open flow: 133 MCF/D Oil: Final open flow: 0 Bbl/d  
Time of open flow between initial and final tests: N/A Hours  
Static rock Pressure: 980 psig(surface pressure) after 144 Hours

Second Producing formation: ALEXANDER Pay zone Depth (ft) 4377 - 4389  
Gas: Initial open flow: Co-mingled MCF/D Oil: Initial open flow: 0 Bbl/d  
Final open flow: Co-mingled MCF/D Oil: Final open flow: 0 Bbl/d  
Time of open flow between initial and final tests:        Hours  
Static rock Pressure: Co-mingled psig(surface pressure) after        Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Stephen P. Rupp  
Signature

10/20/11  
Date

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Were core samples taken? ☐ No ☒ X Were cuttings caught during drilling? Yes ☐ No ☒ X

Were ☒ N Electrical, ☒ N Mechanical, ☒ Y or Geophysical logs recorded on this well?  
Y/N Y/N Y/N

NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL

Perforated Intervals, Fracturing, or Stimulating:

Perfed 3rd Elk 5046' - 5066 (26 shots). BD 3350 #. 210 sks 40/70 & 100 sks 20/40. 528 bbl. Gel Frac.

Perfed Alexander 4377' - 4389' (27 shots). BD 3176 #. 200 sks 40/70 & 108 sks 20/40. 598 bbl. Gel Frac.

Perfed Balltown C 3279' - 3287' (24 shots). BD 2000 #. 200 sks 40/70 & 103 sks 20/40. 475 bbl. Gel Frac.

Perfed Balltown B 3117' - 3151' (24 shots). BD 2300 #. 150 sks 40/70 & 113 sks 20/40. 503 bbl. Gel Frac.

Formations Encountered	Top Depth	Bottom Depth	Notes
FILL	0	20	
SANDY SHALE	20	35	
SANDSTONE	35	53	
SHALE	53	205	
SANDY SHALE	205	330	1-4" FW @ 245'
SANDSTONE	330	480	
SANDY SHALE	480	610	
SANDSTONE	610	700	
SANDY SHALE	700	1145	1-2" FW @ 754'
RED ROCK	1145	1160	
SANDSTONE	1160	1245	
RED ROCK	1245	1312	
LITTLE LIME	1312	1328	
PENCIL CAVE SHALE	1328	1358	
BIG LIME	1358	1378	
SQUAW SANDSTONE	1378	1585	
SHALE	1585	1596	
WEIR SANDSTONE	1596	1748	
BEREA SANDSTONE	1748	1780	
SHALE	1780	1800	
GANTZ SANDSTONE	1800	1842	
LOWER GANTZ SANDSTONE	1842	1894	
SANDY SHALE	1894	2460	
BAYARD SANDSTONE	2460	2486	
SPEECHLEY A SANDSTONE	2486	2604	
SPEECHLEY B SANDSTONE	2604	2630	
SANDY SHALE	2630	3117	
BALLTOWN B SANDSTONE	3117	3244	
BALLTOWN C SANDSTONE	3244	3292	
SANDY SHALE	3292	4151	
BENSON SILTSTONE	4151	4168	
SANDY SHALE	4168	4355	
ALEXANDER	4355	4402	
SHALE	4402	4564	
1ST ELK SILTSTONE	4564	4630	
SANDY SHALE	4630	4821	
2ND ELK SILTSTONE	4821	4855	
SANDY SHALE	4855	5048	
3RD ELK SILTSTONE	5048	5106	
SANDY SHALE	5106	5440	
5TH ELK SILTSTONE	5440	5495	
SHALE	5495	5630	TD

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Third Producing formation:	<u>BALLOTOWN C</u>	Pay zone Depth (ft)	<u>3279 - 3287</u>
Gas: Initial open flow:	<u>Co-mingled</u>	MCF/D	Oil: Initial open flow: <u>0</u> Bbl/d
Final open flow:	<u>Co-mingled</u>	MCF/D	Oil: Final open flow: <u>0</u> Bbl/d
Time of open flow between initial and final tests:		Hours	
Static rock Pressure:	<u>Co-mingled</u>	psig(surface pressure) after	<u>-</u> Hours

Fourth Producing formation:	<u>BALLOTOWN B</u>	Pay zone Depth (ft)	<u>3117 - 3151</u>
Gas: Initial open flow:	<u>Co-mingled</u>	MCF/D	Oil: Initial open flow: <u>0</u> Bbl/d
Final open flow:	<u>Co-mingled</u>	MCF/D	Oil: Final open flow: <u>0</u> Bbl/d
Time of open flow between initial and final tests:		Hours	
Static rock Pressure:	<u>Co-mingled</u>	psig(surface pressure) after	<u>-</u> Hours

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State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas

001-03140

Well Operator's Report of Well Work

Farm name: BIGELOW LODGE Operator Well No.: 16  
LOCATION: Elevation: 1822' Quadrangle: NESTORVILLE  
District: COVE County: BARBOUR  
Latitude: 110 Feet South of 39 Deg. 15 Min. 0 Sec.  
Longitude: 750 Feet West of 79 Deg. 52 Min. 30 Sec.

Company: Texas Keystone, Inc.

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
560 Epsilon Drive Pittsburgh, PA 15238				
Agent: <u>Jon Farmer</u>	<u>13 3/8"</u>	<u>42</u>	<u>42</u>	<u>Sanded In</u>
Inspector: <u>Bryan Harris</u>				
Date Permit Issued: <u>06/29/10</u>	<u>9 5/8"</u>	<u>463</u>	<u>463</u>	<u>180</u>
Date Well Work Commenced: <u>09/13/11</u>				
Date Well Work Completed: <u>09/20/11</u>	<u>7"</u>	<u>1982</u>	<u>1982</u>	<u>270</u>
Verbal Plugging:				
Date Permission granted on:	<u>4 1/2"</u>	<u>0</u>	<u>5730</u>	<u>210</u>
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft.): <u>5871</u>				
Total Measured Depth (ft.): <u>5871</u>				
Fresh Water Depth (ft.): <u>130, 920</u>				
Salt Water Depth (ft.): <u>none reported</u>				
Is coal being mined in the area (N/Y)? <u>N</u>				
Coal Depths (ft.): <u>770</u>				
Void(s) encountered (N/Y) Depth(s): <u>N</u>				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation: 5TH ELK Pay zone Depth (ft) 5633 - 5642  
Gas: Initial open flow: G/S TSTM MCF/D Oil: Initial open flow: 0 Bbl/d  
Final open flow: 133 MCF/D Oil: Final open flow: 0 Bbl/d  
Time of open flow between initial and final tests: N/A Hours  
Static rock Pressure: 1140 psig(surface pressure) after 144 Hours  
  
Second Producing formation: 3RD ELK Pay zone Depth (ft) 5266 - 5294  
Gas: Initial open flow: Co-mingled MCF/D Oil: Initial open flow: 0 Bbl/d  
Final open flow: Co-mingled MCF/D Oil: Final open flow: 0 Bbl/d  
Time of open flow between initial and final tests:        Hours  
Static rock Pressure: Co-mingled psig(surface pressure) after        Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

[Signature] 10/26/11  
Signature Date

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Were core samples taken?      No   X   Were cuttings caught during drilling? Yes      No   X  

Were   N   Electrical,   N   Mechanical,   Y   or Geophysical logs recorded on this well?  
  Y/N     Y/N     Y/N  

NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL

Perforated Intervals, Fracturing, or Stimulating:

Perfed 5th Elk 5633' - 5642' (18 shots). BD 3700 #. 100 sks 40/70 & 112 sks 20/40. 460 bbl. Gel Frac.  
 Perfed 3rd Elk 5266' - 5294' (20 shots). BD 2400 #. 200 sks 40/70 & 107 sks 20/40. 613 bbl. Gel Frac.  
 Perfed Alexander 4602' - 4611' (27 shots). BD 3262 #. 200 sks 40/70 & 109 sks 20/40. 597 bbl. Gel Frac.  
 Perfed Benson 4381' - 4387' (18 shots). BD 4448 #. 150 sks 40/70 & 112 sks 20/40. 477 bbl. Gel Frac.  
 Perfed Balltown C 3512' - 3525' (21 shots). BD 3693 #. 150 sks 40/70 & 117 sks 20/40. 451 bbl. Gel Frac.

Formations Encountered:	Top Depth	Bottom Depth	Notes:
FILL	0	16	
SANDY SHALE	16	30	
SANDSTONE	30	42	
SANDY SHALE	42	200	DAMP @ 130'
SANDSTONE	200	240	
SANDY SHALE	240	440	
SANDSTONE	440	515	
SHALE	515	680	
SANDSTONE	680	770	
COAL	770	780	
SANDY SHALE	780	865	
SANDSTONE	865	1115	1/4" FW @ 920'
SANDY SHALE	1115	1190	
RED ROCK	1190	1250	
SANDSTONE	1250	1375	
RED ROCK	1375	1544	
LITTLE LIME	1544	1559	
PENCIL CAVE SHALE	1559	1590	
BIG LIME	1590	1805	
SQUAW SANDSTONE	1805	1812	
SHALE	1812	1825	
WEIR SANDSTONE	1825	1975	
BEREA SANDSTONE	1975	2006	
SHALE	2006	2027	
GANTZ SANDSTONE	2027	2066	
LOWER GANTZ SANDSTONE	2066	2098	
SANDY SHALE	2098	2687	
BAYARD SANDSTONE	2687	2702	
SANDY SHALE	2702	2718	
SPEECHLEY A SANDSTONE	2718	2833	
SPEECHLEY B SANDSTONE	2833	2844	
SANDY SHALE	2844	3511	
BALLTOWN C SANDSTONE	3511	3528	
SANDY SHALE	3528	4376	
BENSON SILTSTONE	4376	4390	
SANDY SHALE	4390	4579	
ALEXANDER	4579	4619	
SHALE	4619	4788	
1ST ELK SILTSTONE	4788	4818	
SANDY SHALE	4818	5049	
2ND ELK SILTSTONE	5049	5091	
SANDY SHALE	5091	5268	
3RD ELK SILTSTONE	5268	5310	
SANDY SHALE	5310	5604	
5TH ELK SILTSTONE	5604	5658	
SHALE	5658	5871	

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Third Producing formation: <u>ALEXANDER</u>		Pay zone Depth (ft)	<u>4602 - 4611</u>
Gas: Initial open flow:	<u>Co-mingled</u>	MCF/D	Oil: Initial open flow: <u>0</u> Bbl/d
Final open flow	<u>Co-mingled</u>	MCF/D	Oil: Final open flow: <u>0</u> Bbl/d
Time of open flow between initial and final tests: _____		Hours	
Static rock Pressure:	<u>Co-mingled</u>	psig(surface pressure) after	<u>-</u> Hours

Fourth Producing formation: <u>BENSON</u>		Pay zone Depth (ft)	<u>4381 - 4387</u>
Gas: Initial open flow:	<u>Co-mingled</u>	MCF/D	Oil: Initial open flow: <u>0</u> Bbl/d
Final open flow	<u>Co-mingled</u>	MCF/D	Oil: Final open flow: <u>0</u> Bbl/d
Time of open flow between initial and final tests: _____		Hours	
Static rock Pressure:	<u>Co-mingled</u>	psig(surface pressure) after	<u>-</u> Hours

Fifth Producing formation: <u>BALLTOWN C</u>		Pay zone Depth (ft)	<u>3512 - 3525</u>
Gas: Initial open flow:	<u>Co-mingled</u>	MCF/D	Oil: Initial open flow: <u>0</u> Bbl/d
Final open flow	<u>Co-mingled</u>	MCF/D	Oil: Final open flow: <u>0</u> Bbl/d
Time of open flow between initial and final tests: _____		Hours	
Static rock Pressure:	<u>Co-mingled</u>	psig(surface pressure) after	<u>-</u> Hours

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Department of Environmental Protection  
Office of Oil and Gas  
Well Operator's Report of Well Work

DATE: 08/10/2012  
API #: 47-33-05343

Farm name: Davis, Laura Goff Operator Well No.: Goff 4HM

LOCATION: Elevation: 1,196 GL / 1,214 KB Quadrangle: Wolf Summit

District: Clark County: Harrison  
Latitude: 7,890 Feet South of 39 Deg. 17 Min. 30 Sec.  
Longitude 7,210 Feet West of 80 Deg. 22 Min. 30 Sec.

Company: PDC Mountaineer

Address: 120 Genesis Blvd.	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Bridgeport, WV 26330	20"	104'	104'	CmtToSurf
Agent: Bob Williamson	13 3/8"	486'	486'	353
Inspector: Tim Bennett	9 5/8"	2,464'	2,464'	893
Date Permit Issued: 12/17/2009	5 1/2"	9,959'	9,959'	1,806
Date Well Work Commenced: 05/26/2010				
Date Well Work Completed: 08/02/2010	2 3/8"		6,727'	
Verbal Plugging:				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): 7,041				
Total Measured Depth (ft): 9,970				
Fresh Water Depth (ft.): 99'				
Salt Water Depth (ft.): None Reported				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): None Recorded - Air Drilled				
Void(s) encountered (N/Y) Depth(s) N				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Marcellus Pay zone depth (ft) 6971'

Gas: Initial open flow 1,165 MCF/d Oil: Initial open flow Bbl/d

Final open flow MCF/d Final open flow Bbl/d

Time of open flow between initial and final tests 720 Hours

Static rock Pressure 2200 psig (surface pressure) after 72 Hours

Second producing formation N/A Pay zone depth (ft)

Gas: Initial open flow MCF/d Oil: Initial open flow Bbl/d

Final open flow MCF/d Final open flow Bbl/d

Time of open flow between initial and final tests Hours

Static rock Pressure psig (surface pressure) after Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete.

  
Signature

01/25/2013  
Date

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JAN 28 2013

Were core samples taken? Yes \_\_\_\_\_ No XX

Were cuttings caught during drilling? Yes XX No \_\_\_\_\_

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list Mudlog, Quad Neutron,  
Nevis Energy Services GR log from 6060' to TD, GR/CCL/Temp Radial Bond Log.

**NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.**

Perforated Intervals, Fracturing, or Stimulating:

Perforated interval 7,793 ft – 9,901 ft (350 shots). Frac'd 7 stages using 167 bbls 15% HCL, and 52,100 bbls of Slickwater carrying 331,000 lbs of 100-mesh sand, 1,324,000 lbs of 40/70 sand, and 174,000 lbs of 30/50 sand.

Plug Back Details Including Plug Type and Depth(s): N/A

Formations Encountered: \_\_\_\_\_ Top Depth \_\_\_\_\_ / \_\_\_\_\_ Bottom Depth  
Surface: \_\_\_\_\_

Little Lime	* 1397	1415
Big Lime	1437	1550
Big Injun	1550	1603
Fifty Foot	1986	2070
Thirty Foot	2081	2130
Fourth SS	2298	2354
Fifth SS	2404	2442
Benson	4450	4488
Sycamore Grit	6267	7305
Genessee SH	6762	6781
Tully LS	6781	6883
Hamilton	6883	6971
Marcellus SH	6971	9970 MD - 7041' TVD

KOP at 6060' and LP at 7028'

\*Log tops are from 47-033-05344 & Nevis Energy Services GR log started at 6060'KB and are TVD unless noted as MD.

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State of West Virginia  
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Well Operator's Report of Well Work

DATE: 08/10/2012  
API #: 47-33-05366

Farm name: Cather, H. Dotson Trustee Operator Well No.: Goff 5HM

LOCATION: Elevation: 1,342 GL / 1,360 KB Quadrangle: Wolf Summit

District: Clark County: Harrison  
Latitude: 3,756 Feet South of 39 Deg. 17 Min. 30 Sec.  
Longitude 5,061 Feet West of 80 Deg. 22 Min. 30 Sec.

Company: PDC Mountaineer

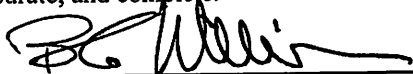
Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
120 Genesis Blvd. Bridgeport, WV 26330	20"	80'	80'	CmtToSurf
Agent: Bob Williamson	13 3/8"	411'	411'	426
Inspector: Tim Bennett	9 5/8"	2,645'	2,645'	1,025
Date Permit Issued: 12/08/2009	5 1/2"	12,504'	12,504'	2,246
Date Well Work Commenced: 10/23/2010				
Date Well Work Completed: 02/11/2011	2 3/8"		7,431'	
Verbal Plugging:				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input checked="" type="checkbox"/>				
Total Vertical Depth (ft): 7,242'				
Total Measured Depth (ft): 12,520'				
Fresh Water Depth (ft.): 77', 398'				
Salt Water Depth (ft.): 1210' (Salt Sand)				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): None Reported - Air Drilled.				
Void(s) encountered (N/Y) Depth(s) N				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Marcellus Pay zone depth (ft) 7,109'  
Gas: Initial open flow 6,929 MCF/d Oil: Initial open flow Bbl/d  
Final open flow MCF/d Final open flow Bbl/d  
Time of open flow between initial and final tests 720 Hours  
Static rock Pressure 3,300 psig (surface pressure) after 72 Hours

Second producing formation N/A Pay zone depth (ft) \_\_\_\_\_  
Gas: Initial open flow MCF/d Oil: Initial open flow Bbl/d  
Final open flow MCF/d Final open flow Bbl/d  
Time of open flow between initial and final tests Hours  
Static rock Pressure psig (surface pressure) after Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete.

  
Signature

01/25/2013  
Date

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Office of Oil and Gas  
JAN 23 2013

Were core samples taken? Yes \_\_\_\_\_ No XX

Were cuttings caught during drilling? Yes XX No \_\_\_\_\_

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list Mudlog, Nevis GR log from 5500'-TD, SLB GR/VDL/CCL/Sonic Scanner to 3000'.

**NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.**

Perforated Intervals, Fracturing, or Stimulating:

Perforated interval 8,014 ft – 12,430ft (600 shots). Frac'd 12 stages using 285 bbls 15% HCL, and 106,200 bbls of Slickwater carrying 960,000 lbs of 100-mesh sand, 3,471,000 lbs of 40/70 sand, and 76,000 lbs of 30/50 sand.

Plug Back Details Including Plug Type and Depth(s): N/A

Formations Encountered:	Top Depth	/	Bottom Depth
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Little Lime	*1557	1572	
Big Lime	1595	1752	
50 Foot	2142	2228	
30 Foot	2242	2280	
Gordon Stray	2240	2260	
4th Sand	2442	2510	
Fifth Sand	2567	2609	
Benson	4626	4670	
Sycamore Grit	6416'	6450'	
Genesee SH	6900'	6921'	
Tully LS	6921'	6998'	
Hamilton	6998'	7109'	
Marcellus SH	7109'	12,520' MD	7,242' TVD

KOP at 6017' & LP at 7193' \*Log tops are from 47-033- 05106 located on the pad and shown through the Benson. Directional GR log started at 5500'KB and those tops are quoted above from Sycamore to the

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WR-35  
Rev (9-11)

State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas  
Well Operator's Report of Well Work

DATE: 5/16/2012  
API #: 47-033-05542

Farm name: Salerno, Albert, ET AL Operator Well No.: Harbert East A 2H

LOCATION: Elevation: 1243' Quadrangle: Shinnston 7.5'

District: Eagle County: Harrison  
Latitude: 11,810 Feet South of 39 Deg. 25 Min. 00 Sec.  
Longitude 3,550 Feet West of 80 Deg. 20 Min. 00 Sec.

Company: XTO Energy, Inc.

Address: <u>PO Box 1008, Jane Lew, WV 26378</u>	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
	<u>20"</u>	<u>108'</u>	<u>108'</u>	<u>300 sks</u>
Agent: <u>Gary Beall</u>	<u>13 3/8"</u>	<u>529'</u>	<u>529'</u>	<u>454 sks - CTS</u>
Inspector: <u>Tristan Jenkins</u>	<u>9 5/8"</u>	<u>2786'</u>	<u>2786'</u>	<u>209 sks</u>
Date Permit Issued: <u>6/09/2011</u>	<u>5 1/2"</u>	<u>10515'</u>	<u>10515'</u>	<u>1468 sks</u>
Date Well Work Commenced: <u>7/16/2011</u>				
Date Well Work Completed: <u>4/30/2012</u>				
Verbal Plugging:				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): <u>7183'</u>				
Total Measured Depth (ft): <u>10515'</u>				
Fresh Water Depth (ft.): <u>None Noted</u>				
Salt Water Depth (ft.): <u>None Noted</u>				
Is coal being mined in area (N/Y)? <u>N</u>				
Coal Depths (ft.): <u>None Noted</u>				
Void(s) encountered (N/Y) Depth(s) <u>N</u>				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Marcellus Pay zone depth (ft) 7171-7183

Gas: Initial open flow Show MCF/d Oil: Initial open flow        Bbl/d

Final open flow Show MCF/d Final open flow        Bbl/d

Time of open flow between initial and final tests        Hours

Static rock Pressure        psig (surface pressure) after        Hours

Second producing formation        Pay zone depth (ft)       

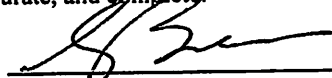
Gas: Initial open flow        MCF/d Oil: Initial open flow        Bbl/d

Final open flow        MCF/d Final open flow        Bbl/d

Time of open flow between initial and final tests        Hours

Static rock Pressure        psig (surface pressure) after        Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

  
Signature

6-14-12  
Date

Were core samples taken? Yes \_\_\_\_\_ No X

Were cuttings caught during drilling? Yes X No \_\_\_\_\_

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list \_\_\_\_\_  
GR, ROP, VS, TVD, MWD, Mudlogs

**NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.**

**Perforated Intervals, Fracturing, or Stimulating:**

Stg 1 Marcellus; 10,273'-10,427'; 72 shots; Slick water frac; Avg treating 7020 psi@78 bpm; 91,009#s 100 mesh; 310,459#s 30/50 mesh; 8,315 bbl water, 733 bbl treated water

Stg 2 Marcellus; 10,018'-10,192'; 72 shots; Slick water frac; Avg treating 6932 psi@86 bpm; 92,067#s 100 mesh; 309,629#s 30/50 mesh; 8,575 bbl water, 920 bbl treated water

Stg 3 Marcellus; 9,763'-9,937'; 72 shots; Slick water frac; Avg treating 6843 psi@85 bpm; 91,318#s 100 mesh; 301,431#s 30/50 mesh; 8,554 bbl water, 842 bbl treated water

Stg 4 Marcellus; 9,508'-9,682'; 72 shots; Slick water frac; Avg treating 6799 psi@83 bpm; 88,261#s 100 mesh; 306,523#s 30/50 mesh; 8,507 bbl water, 905 bbl treated water

Stg 5 Marcellus; 9,253'-9,427'; 72 shots; Slick water frac; Avg treating 6818 psi@85 bpm; 100,758#s 100 mesh; 302,619#s 30/50 mesh; 8,344 bbl water, 1300 bbl treated water

Stg 6 Marcellus; 8,998'-9,172'; 72 shots; Slick water frac; Avg treating 6932 psi@85 bpm; 75,453#s 100 mesh; 269,755#s 30/50 mesh; 7,741 bbl water, 851 bbl treated water

Plug Back Details Including Plug Type and Depth(s):

See additional pages

Formations Encountered: \_\_\_\_\_ Top Depth \_\_\_\_\_ / \_\_\_\_\_ Bottom Depth \_\_\_\_\_  
Surface:

Surface	0/2800
SH, SLTST	2800/2890
SLTST, SH	2890/2950
SH, SLTST	2950/3010
SLTST, SS, SH	3010/3100
SLTST, SS, SH, LS	3100/3120
SH, SLTST	3120/3160
SH, SLTST, SS	3160/3220
SH, SLTST	3220/3250
SLTST, SH, LS	3250/3280
SLTST, SH	3280/3310
SH, SLTST	3310/3430
SLTST, SH, SS	3430/3510
SH, SLTST, SS	3510/3580

See additional pages

larbert East A 2H 47-033-05542

Additional Stages

Stg 7 Marcellus; 8,743'-8,917'; 72 shots; Slick water frac; Avg treating 6749 psi@85 bpm; 76,040#s 100 mesh; 268,423#s 30/50 mesh; 7,529 bbl water, 1001 bbl treated water
Stg 8 Marcellus; 8,488'-8,662'; 72 shots; Slick water frac; Avg treating 6615 psi@84 bpm; 75,244#s 100 mesh; 267,180#s 30/50 mesh; 8,524 bbl water
Stg 9 Marcellus; 8,233'-8,407'; 72 shots; Slick water frac; Avg treating 6708 psi@85 bpm; 75,356#s 100 mesh; 267,402#s 30/50 mesh; 8,540 bbl water
Stg 10 Marcellus; 7,978'-8,152'; 72 shots; Slick water frac; Avg treating 7221 psi@76 bpm; 75,011#s 100 mesh; 267,347#s 30/50 mesh; 9,536 bbl water
Stg 11 Marcellus; 7,723'-7,897'; 72 shots; Slick water frac; Avg treating 6698 psi@84 bpm; 49,943#s 100 mesh; 278,688#s 30/50 mesh; 8,263 bbl water

Additional Formation Log

SH,SS,SLTST	0	3640
SH,SS	3640	3720
SH,SLTST,SS	3720	3910
SH, SLTST	3910	4050
SH,SS,SLTST	4050	4090
SH,SLTST,SS	4090	4150
SH, SLTST	4150	4480
SH	4480	4510
SH, SLTST	4510	4540
SH,SLTST,SS	4540	4600
SH,SLTST	4600	4810
SH,SLTST,SS	4810	4840
SH,SLTST	4840	4870
SH	4870	4990
SH, SLTST	4990	5830
SH	5830	7060
SH,LS	7060	7080
SH	7080	7180
LS,SH	7180	7300
SH	7300	7360
SH,LS	7360	7370
SH	7370	7440
SH,LS	7440	7460
SH	7460	7600
SH,LS	7600	7650
SH	7650	10515

Harbert East A 2H  
Additional Formation Log

47-033-05542

FORMATION	TVD Tops
BIG INJUN*	1533
SQUAW SAND*	1623
GANTZ SAND*	2003
50FT SAND*	2054
30FT SAND*	2146
GORDON SAND*	2219
LWR GORDON *	2330
4TH SAND*	2422
5TH SAND*	2490
UPPER BALLTOWN*	3323
BALLTOWN*	3409
LOWER BALLTOWN*	3500
GENESEO SHALE	6898
TULLY LIMESTONE	6941
HAMILTON SHALE	6994
MARCELLUS SHALE	7052
PURCELL LIMESTONE	7158

\* Tops projected from offset log due to air drilling and therefore not logging this section

Tully	7204 MD
	6941 TVD
Hamilton	7279 MD
	6994 TVD
Marcellus	7362 MD
	7052 TVD

WR-35  
Rev (9-11)

State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas  
Well Operator's Report of Well Work

DATE: 5/16/2012  
API #: 47-033-05543

Farm name: Salerno, Albert, ET AL Operator Well No.: Harbert East A 3H

LOCATION: Elevation: 1243' Quadrangle: Shinnston 7.5'

District: Eagle County: Harrison  
Latitude: 11.610 Feet South of 39 Deg. 25 Min. 00 Sec.  
Longitude 3.560 Feet West of 80 Deg. 20 Min. 00 Sec.

Company: XTO Energy, Inc.

Address: <u>PO Box 1008, Jane Lew, WV 26378</u>	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
	<u>20"</u>	<u>112'</u>	<u>112'</u>	<u>300 sks</u>
Agent: <u>Gary Beall</u>	<u>13 3/8"</u>	<u>529'</u>	<u>529'</u>	<u>464 sks</u>
Inspector: <u>Tristan Jenkins</u>	<u>9 5/8"</u>	<u>2757'</u>	<u>2757'</u>	<u>750 sks</u>
Date Permit Issued: <u>6/09/2011</u>	<u>5 1/2"</u>	<u>10765'</u>	<u>10765'</u>	<u>1482 sks</u>
Date Well Work Commenced: <u>8/4/2011</u>				
Date Well Work Completed: <u>4/30/2012</u>				
Verbal Plugging:				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): <u>7205'</u>				
Total Measured Depth (ft): <u>10744'</u>				
Fresh Water Depth (ft.): <u>268'</u>				
Salt Water Depth (ft.): <u>None Noted</u>				
Is coal being mined in area (N/Y)? <u>N</u>				
Coal Depths (ft.): <u>None Noted</u>				
Void(s) encountered (N/Y) Depth(s) <u>N</u>				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Marcellus Pay zone depth (ft) 7160-7204

Gas: Initial open flow Show MCF/d Oil: Initial open flow        Bbl/d

Final open flow Show MCF/d Final open flow        Bbl/d

Time of open flow between initial and final tests        Hours

Static rock Pressure        psig (surface pressure) after        Hours

Second producing formation        Pay zone depth (ft)       

Gas: Initial open flow        MCF/d Oil: Initial open flow        Bbl/d

Final open flow        MCF/d Final open flow        Bbl/d

Time of open flow between initial and final tests        Hours

Static rock Pressure        psig (surface pressure) after        Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

  
Signature

6/11/12  
Date

Were core samples taken? Yes \_\_\_\_\_ No X

Were cuttings caught during drilling? Yes X No \_\_\_\_\_

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list \_\_\_\_\_  
GR, ROP, VS, TVD, MWD, Mudlogs

**NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.**

**Perforated Intervals, Fracturing, or Stimulating:**

Stg 1 Marcellus; 10,506'-10,692'; 72 shots; Slick water frac; Avg treating 7278 psi@85 bpm; 75,808#s 100 mesh; 217,963#s 30/50 mesh; 7,129 bbl water, 760 bbl treated water

Stg 2 Marcellus; 10,237'-10,423'; 72 shots; Slick water frac; Avg treating 7112 psi@84 bpm; 76,148#s 100 mesh; 265,327#s 30/50 mesh; 7,705 bbl water, 751 bbl treated water

Stg 3 Marcellus; 9,968'-10,154'; 72 shots; Slick water frac; Avg treating 7148 psi@82 bpm; 77,008#s 100 mesh; 265,662#s 30/50 mesh; 7,709 bbl water, 825 bbl treated water

Stg 4 Marcellus; 9,699'-9,885'; 72 shots; Slick water frac; Avg treating 7080 psi@83 bpm; 74,357#s 100 mesh; 269,799#s 30/50 mesh; 7,754 bbl water, 825 bbl treated water

Stg 5 Marcellus; 9,430'-9,616'; 72 shots; Slick water frac; Avg treating 7044 psi@85 bpm; 75,085#s 100 mesh; 265,294#s 30/50 mesh; 7,642 bbl water, 853 bbl treated water

Stg 6 Marcellus; 9,161'-9,347'; 72 shots; Slick water frac; Avg treating 7079 psi@85 bpm; 76,395#s 100 mesh; 269,952#s 30/50 mesh; 7,586 bbl water, 1000 bbl treated water

Plug Back Details Including Plug Type and Depth(s):

See additional pages

Formations Encountered:	Top Depth	/	Bottom Depth
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Surface:

SS	0/140	
SH	140/200	
SS	200/212	
SH	212/240	
SH, SS	240/320	1/4" stream H2O@ 268'
SH	320/325	
SS	325/330	
SH	330/340	
SH, SS	340/410	
SH	410/500	
SS, SH	500/550	
SH	550/1092	
SS, SH	1092/1543	
SH	1543/2127	

See additional pages



Harbert East A 3H 47-033-05543

Additional Stages

Stg 7 Marcellus; 8,892'-9,078'; 72 shots; Slick water frac; Avg treating 7186 psi@82 bpm; 75,423#s 100 mesh; 118,976#s 30/50 mesh; 8,795 bbl water
Stg 8 Marcellus; 8,623'-8,809'; 72 shots; Slick water frac; Avg treating 6845 psi@86 bpm; 75,818#s 100 mesh; 265,117#s 30/50 mesh; 8,499 bbl water
Stg 9 Marcellus; 8,354'-8,540'; 72 shots; Slick water frac; Avg treating 6879 psi@85 bpm; 74,813#s 100 mesh; 265,981#s 30/50 mesh; 8,513 bbl water
Stg 10 Marcellus; 8,131'-8,271'; 72 shots; Slick water frac; Avg treating 6908 psi@86 bpm; 75,657#s 100 mesh; 268,135#s 30/50 mesh; 8,570 bbl water
Stg 11 Marcellus; 7,862'-8,048'; 72 shots; Slick water frac; Avg treating 6784 psi@84 bpm; 73,325#s 100 mesh; 266,172#s 30/50 mesh; 8,540 bbl water
Stg 11 Marcellus; 7,593'-7,779'; 72 shots; Slick water frac; Avg treating 6356 psi@83 bpm; 76,377#s 100 mesh; 265,447#s 30/50 mesh; 8,494 bbl water

Additional Formation Log

SS,SH	2127	2322
SH	2322	2770
SLTST,SH	2770	2880
SH,SLTST	2880	2890
SLTST,SH	2890	2920
SLTST,SH,SS	2920	2950
SH,SLTST	2950	3070
SH,SLTST,SS	3070	3280
SLTST,SH	3280	3310
SH,SLTST	3310	3400
SLTST,SH,SS	3400	3490
SH,SS,SLTST	3490	3700
SH,SLTST	3700	3970
SH,SLTST,SS	3970	4000
SH	4000	4030
SH,SLTST	4030	4090
SH	4090	4180
SH,SLTST	4180	4210
SH	4210	4270
SLTST,SS,SH	4270	4300
SH,SLTST	4300	4390
SH	4390	4430
SH,SLTST,SS	4430	4510
SH,SLTST	4510	4780
SH,SLTST,SS	4780	4810
SH,SLTST	4810	5410
SH	5410	6970
SH,LS	6970	7030
LS,SH	7030	7070
SH,LS	7070	7100
SH	7100	7350

**Harbert East A 3H                    47-033-05543**  
**Additional Formation Log**

SH,LS	7350	7440
SH	7440	7660
LS,SH	7660	7750
SH,LS	7750	7780
SH	7780	8800
SH,LS	8800	8840
SH	8840	9170
SH,LS	9170	9200
SH	9200	10744

FORMATION	TVD
BIG INJUN*	1533
SQUAW SAND*	1623
GANTZ SAND*	2003
50FT SAND*	2054
30FT SAND*	2146
GORDON SAND*	2219
LWR GORDON *	2330
4TH SAND*	2422
5TH SAND*	2490
UPPER BALLTOWN*	3323
BALLTOWN*	3409
LOWER BALLTOWN*	3500
GENESEO SHALE	6895
TULLY LIMESTONE	6935
HAMILTON SHALE	6987
MARCELLUS SHALE	7052
PURCELL LIMESTONE	7156
ONONDAGA LIMESTONE	7205

\* Tops projected from offset log due to air drilling and therefore not logging this section

<b>Tully</b>	<b>6993 MD</b>
	<b>6935 TVD</b>
<b>Hamilton</b>	<b>7062 MD</b>
	<b>6987 TVD</b>
<b>Marcellus</b>	<b>7155 MD</b>
	<b>7052 TVD</b>

WR-35  
Rev (9-11)

State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas  
Well Operator's Report of Well Work

DATE: 5/16/2012  
API #: 47-033-05578

Farm name: Salerno, Albert, ET AL Operator Well No.: Harbert East A 4H

LOCATION: Elevation: 1243' Quadrangle: Shinnston 7.5'

District: Eagle County: Harrison  
Latitude: 11.610 Feet South of 39 Deg. 25 Min. 00 Sec.  
Longitude 3.570 Feet West of 80 Deg. 20 Min. 00 Sec.

Company: XTO Energy, Inc.

Address: <u>PO Box 1008, Jane Lew, WV 26378</u>	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
	<u>20"</u>	<u>90'</u>	<u>90'</u>	<u>29 BBLS</u>
Agent: <u>Gary Beall</u>	<u>13 3/8"</u>	<u>529'</u>	<u>529'</u>	<u>454 sks</u>
Inspector: <u>Tristan Jenkins</u>	<u>9 5/8"</u>	<u>2782'</u>	<u>2782'</u>	<u>932 sks</u>
Date Permit Issued: <u>9/29/2011</u>	<u>5 1/2"</u>	<u>10797'</u>	<u>10797'</u>	<u>1867 sks</u>
Date Well Work Commenced: <u>10/28/2011</u>				
Date Well Work Completed: <u>4/27/2012</u>				
Verbal Plugging:				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): <u>7186'</u>				
Total Measured Depth (ft): <u>10805'</u>				
Fresh Water Depth (ft.): <u>None Noted</u>				
Salt Water Depth (ft.): <u>None Noted</u>				
Is coal being mined in area (N/Y)? <u>N</u>				
Coal Depths (ft.): <u>None Noted</u>				
Void(s) encountered (N/Y) Depth(s) <u>N</u>				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Marcellus Pay zone depth (ft) 7173-7185

Gas: Initial open flow Show MCF/d Oil: Initial open flow        Bbl/d

Final open flow Show MCF/d Final open flow        Bbl/d

Time of open flow between initial and final tests        Hours

Static rock Pressure        psig (surface pressure) after        Hours

Second producing formation        Pay zone depth (ft)       

Gas: Initial open flow        MCF/d Oil: Initial open flow        Bbl/d

Final open flow        MCF/d Final open flow        Bbl/d

Time of open flow between initial and final tests        Hours

Static rock Pressure        psig (surface pressure) after        Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

  
Signature

6-14-12  
Date

Were core samples taken? Yes \_\_\_\_\_ No X

Were cuttings caught during drilling? Yes X No \_\_\_\_\_

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list \_\_\_\_\_  
GR, ROP, VS, TVD, MWD, Mudlogs

**NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.**

**Perforated Intervals, Fracturing, or Stimulating:**

Stg 1 Marcellus; 10,556'-10,726'; 72 shots; Slick water frac; Avg treating 7019 psi@85 bpm; 73,106#s 100 mesh; 210,848#s 30/50 mesh; 6,562 bbl water, 658 bbl treated water

Stg 2 Marcellus; 10,305'-10,475'; 72 shots; Slick water frac; Avg treating 6812 psi@82 bpm; 75,722#s 100 mesh; 248,816#s 30/50 mesh; 7,279 bbl water, 825 bbl treated water

Stg 3 Marcellus; 10,054'-10,224'; 72 shots; Slick water frac; Avg treating 6779 psi@84 bpm; 75,032#s 100 mesh; 271,892#s 30/50 mesh; 8,578 bbl water, 781 bbl treated water

Stg 4 Marcellus; 9,803'-9,973'; 72 shots; Slick water frac; Avg treating 6866 psi@84 bpm; 74,830#s 100 mesh; 267,218#s 30/50 mesh; 7,679 bbl water, 801 bbl treated water

Stg 5 Marcellus; 9,552'-9,722'; 72 shots; Slick water frac; Avg treating 6814 psi@85 bpm; 75,616#s 100 mesh; 265,227#s 30/50 mesh; 7,638 bbl water, 850 bbl treated water

Stg 6 Marcellus; 9,301'-9,471'; 72 shots; Slick water frac; Avg treating 6888 psi@86 bpm; 74,719#s 100 mesh; 265,281#s 30/50 mesh; 7,519 bbl water, 1000 bbl treated water

Plug Back Details Including Plug Type and Depth(s):

See additional pages

**Formations Encountered:** \_\_\_\_\_ **Top Depth** \_\_\_\_\_ / \_\_\_\_\_ **Bottom Depth** \_\_\_\_\_  
**Surface:** \_\_\_\_\_

Fill 0/15

SD&SH 15/88

SD&SH 88/110

SD&SH 110/235

SD&SH 235/310

SD 310/410

SD, SH 410/515

Red Rock 515/545

SH 545/645

SD 645/750

SH 750/956

SD 956/1135

SH 1135/1300

SH & SD 1300/2200

See additional pages

**Harbert East A 4H 47-033-05578**

**Additional Stages**

Stg 7 Marcellus; 9,050'-9,220'; 72 shots; Slick water frac; Avg treating 6650 psi@85 bpm; 76,053#s 100 mesh; 264,909#s 30/50 mesh; 7,486 bbl water, 1001 bbl treated water
Stg 8 Marcellus; 8,799'-8,969'; 72 shots; Slick water frac; Avg treating 6377 psi@86 bpm; 74,982#s 100 mesh; 264,985#s 30/50 mesh; 8,530 bbl water
Stg 9 Marcellus; 8,548'-8,718'; 72 shots; Slick water frac; Avg treating 6338 psi@84 bpm; 75,761#s 100 mesh; 264,705#s 30/50 mesh; 8,482 bbl water
Stg 10 Marcellus; 8,297'-8,467'; 72 shots; Slick water frac; Avg treating 6437 psi@86 bpm; 91,924#s 100 mesh; 301,326#s 30/50 mesh; 9,376 bbl water
Stg 11 Marcellus; 8,046'-8,216'; 72 shots; Slick water frac; Avg treating 6544 psi@85 bpm; 90,421#s 100 mesh; 303,344#s 30/50 mesh; 9,358 bbl water
Stg 12 Marcellus; 7,795'-7,965'; 72 shots; Slick water frac; Avg treating 6491 psi@85 bpm; 91,585#s 100 mesh; 311,696#s 30/50 mesh; 9,500 bbl water
Stg 13 Marcellus; 7,544'-7,714'; 72 shots; Slick water frac; Avg treating 6415 psi@85 bpm; 91,473#s 100 mesh; 309,201#s 30/50 mesh; 9,413 bbl water

**Additional Formation Log**

SH	0	2500
SH	2500	2785
SH	2785	2820
SH & SLTST	2820	2860
SH & SLTST	2860	2920
SH & SLTST	2920	2560
SLTST & SH & SS	2560	2980
SLTST & SH & SS	2980	3010
SH & SLTST	3010	3040
SH & SLTST	3040	3100
SH & SLTST	3100	3130
SH	3130	3165
SH & SLTST	3165	3220
SH & SLTST & SS	3220	3250
SH & SLTST	3250	3370
SH	3370	3460
SH & SLTST	3460	3540
SLTST & SH	3540	3570
SH & SLTST	3570	3710
SH	3710	3880
SH & SLTST	3880	4120
SH & SLTST & SS	4120	4150
SH & SLTST	4150	4250
SLTST & SH	4250	4390
SH & SLTST	4390	4450
SH	4450	4470
SH & SLTST	4470	4360
SH	4360	4690
SH & SLTST	4690	4750
SH	4750	4780
SH & SLTST	4780	4840

**Harbert East A 4H      47-033-05578**  
**Additional Formation Log**

<b>SH</b>	<b>4840</b>	<b>4900</b>
<b>SH &amp; SLTST</b>	<b>4900</b>	<b>4930</b>
<b>SH</b>	<b>4930</b>	<b>6950</b>
<b>LS &amp; SH</b>	<b>6950</b>	<b>7090</b>
<b>SH &amp; LS</b>	<b>7090</b>	<b>7110</b>
<b>SH</b>	<b>7110</b>	<b>7200</b>
<b>SH &amp; LS</b>	<b>7200</b>	<b>7240</b>
<b>SH</b>	<b>7240</b>	<b>7450</b>
<b>SH &amp; LS</b>	<b>7450</b>	<b>7470</b>
<b>SH</b>	<b>7470</b>	<b>7560</b>
<b>SH &amp; LS</b>	<b>7560</b>	<b>7600</b>
<b>SH</b>	<b>7600</b>	<b>8030</b>
<b>SH &amp; LS</b>	<b>8030</b>	<b>8060</b>
<b>SH</b>	<b>8060</b>	<b>10805</b>

<b>FORMATION</b>	<b>TVD</b>
BIG INJUN*	1533
SQUAW SAND*	1623
GANTZ SAND*	2003
50FT SAND*	2054
30FT SAND*	2146
GORDON SAND*	2219
LWR GORDON *	2330
4TH SAND*	2422
5TH SAND*	2490
UPPER BALLTOWN*	3323
BALLTOWN*	3409
LOWER BALLTOWN*	3500
GENESEO SHALE	6903
TULLY LIMESTONE	6946
HAMILTON SHALE	6999
MARCELLUS SHALE	7059
PURCELL LIMESTONE	7163

\* Tops projected from offset log due to air drilling and therefore not logging this section

<b>Tully</b>	<b>6990 MD</b>
	<b>6946 TVD</b>
<b>Hamilton</b>	<b>7065 MD</b>
	<b>6999 TVD</b>
<b>Marcellus</b>	<b>7168 MD</b>
	<b>7059 TVD</b>

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State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas  
Well Operator's Report of Well Work

DATE: 1/23/2013  
API #: 47-033-05582

UPDATED

Farm name: Hurst, Clara Mae et al Operator Well No.: Sayler Unit 1H

LOCATION: Elevation: 1172' Quadrangle: West Milford

District: Union County: Harrison  
Latitude: 10.581' Feet South of 39 Deg. 12 Min. 30 Sec.  
Longitude 7.812' Feet West of 80 Deg. 27 Min. 30 Sec.

Company: Antero Resources Appalachian Corp

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
<u>1625 17th Street</u>				
<u>Denver, CO 80202</u>	<u>20" 94#</u>	<u>40'</u>	<u>40'</u>	<u>38 Cu. Ft. Class A</u>
Agent: <u>CT Corporation System</u>	<u>13-3/8" 54.5#</u>	<u>628'</u>	<u>628'</u>	<u>872 Cu. Ft. Class A</u>
Inspector: <u>Tristan Jenkins</u>	<u>9-5/8" 36#</u>	<u>2843'</u>	<u>2843'</u>	<u>1158 Cu. Ft. Class A</u>
Date Permit Issued: <u>1/25/2012</u>	<u>5-1/2" 20#</u>	<u>16155'</u>	<u>16155'</u>	<u>3939 Cu. Ft. Class H</u>
Date Well Work Commenced: <u>3/8/2012</u>				
Date Well Work Completed: <u>7/3/2012</u>	<u>2-3/8" 4.7#</u>	<u>7133'</u>		
Verbal Plugging: <u>N/A</u>				
Date Permission granted on: <u>N/A</u>				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): <u>7171' TVD</u>				
Total Measured Depth (ft): <u>16155' MD, 7156' TVD (BHL)</u>				
Fresh Water Depth (ft.): <u>est. 175'</u>				
Salt Water Depth (ft.): <u>est. 1578'</u>				
Is coal being mined in area (N/Y)? <u>No</u>				
Coal Depths (ft.): <u>est. 103', 167', 223'</u>				
Void(s) encountered (N/Y) Depth(s) <u>N, N/A</u>				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Marcellus Pay zone depth (ft) 7025' TVD (Top)

Gas: Initial open flow ----- MCF/d Oil: Initial open flow N/A Bbl/d

Final open flow 7708 MCF/d Final open flow N/A Bbl/d

Time of open flow between initial and final tests N/A Hours

Static rock Pressure 3800 psig (surface pressure) after ----- Hours

Second producing formation ----- Pay zone depth (ft) -----

Gas: Initial open flow ----- MCF/d Oil: Initial open flow ----- Bbl/d

Final open flow ----- MCF/d Final open flow ----- Bbl/d

Time of open flow between initial and final tests ----- Hours

Static rock Pressure ----- psig (surface pressure) after ----- Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Lisa Brithneker  
Signature

1/23/13  
Date

JAN 23 2013

Were core samples taken? Yes \_\_\_\_\_ No ☒

Were cuttings caught during drilling? Yes ☒ No \_\_\_\_\_

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list Yes, CBL.

This is a subsequent well. Antero only runs wireline logs on the first well on a multi-pad (Sayler Unit 2H API# 47-033-05583). Please reference wireline logs submitted with Form WR-35 for Sayler Unit 2H.

**NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.**

Perforated Intervals, Fracturing, or Stimulating:

Perforations: 7245' - 16090' MD (1848 holes)

Frac'd w/ 13,500 gals 15% HCL Acid, 184,062 bbls Slick Water carrying 987,200# 100 mesh,  
3,704,100# 40/70 and 2,071,500# 20/40 sand.

Plug Back Details Including Plug Type and Depth(s): N/A

<u>Formations Encountered:</u>	<u>Top Depth</u>	<u>Bottom Depth</u>
<u>Surface:</u>		
Big Lime	1,663'	1,762'
Big Injun	1,763'	2,127'
Fifty Foot Sand	2,128'	2,237'
Gordon	2,238'	2,524'
Fifth Sandstone	2,525'	2,564'
Bayard	2,565'	3,221'
Speechley	3,222'	3,461'
Balltown	3,461'	3,980'
Bradford	3,981'	4,603'
Benson	4,604'	4,830'
Alexander	4,831'	4,985'
Elk	4,986'	5,586'
Rhinestreet	5,587'	6,382'
Sycamore	6,383'	6,640'
Middlesex	6,641'	6,806'
Burkett	6,807'	6,836'
Tully	6,837'	6,959'
Hamilton	6,960'	7,024'
Marcellus	7,025'	7,171' TVD



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State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas  
Well Operator's Report of Well Work

DATE: 1/23/2013  
API #: 47-033-05586

UPDATED

Farm name: Yeager, Charles E. Operator Well No.: Stutler Unit 1H

LOCATION: Elevation: 1350' Quadrangle: West Milford

District: Union County: Harrison  
Latitude: 5.108' Feet South of 39 Deg. 15 Min. 00 Sec.  
Longitude 9.709' Feet West of 80 Deg. 27 Min. 30 Sec.

Company: Antero Resources Appalachian Corp

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
1625 17th Street				
Denver, CO 80202	20" 94#	40'	40'	38 Cu. Ft. Class A
Agent: CT Corporation System	13-3/8" 54.5#	570'	570'	792 Cu. Ft. Class A
Inspector: Tristan Jenkins	9-5/8" 36#	2620'	2620'	1067 Cu. Ft. Class A
Date Permit Issued: 1/4/2012	5-1/2" 20#	16087'	16087'	3988 Cu. Ft. Class H
Date Well Work Commenced: 4/12/2012				
Date Well Work Completed: 8/21/2012	2-3/8" 4.7#	7303'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): 7186' TVD				
Total Measured Depth (ft): 16087' MD, 7180' TVD (BHL)				
Fresh Water Depth (ft.): est. 90'				
Salt Water Depth (ft.): est. 1890'				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): est. 203', 283', 320'				
Void(s) encountered (N/Y) Depth(s) N, N/A				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Marcellus Pay zone depth (ft) 7139' TVD (Top)

Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow N/A Bbl/d

Final open flow 10,410 MCF/d Final open flow N/A Bbl/d

Time of open flow between initial and final tests N/A Hours

Static rock Pressure 3800 psig (surface pressure) after \_\_\_\_\_ Hours

Second producing formation \_\_\_\_\_ Pay zone depth (ft) \_\_\_\_\_

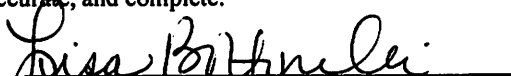
Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d

Final open flow \_\_\_\_\_ MCF/d Final open flow \_\_\_\_\_ Bbl/d

Time of open flow between initial and final tests \_\_\_\_\_ Hours

Static rock Pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

  
Signature

\_\_\_\_\_  
Date

Were core samples taken? Yes \_\_\_\_\_ No X

Were cuttings caught during drilling? Yes X No \_\_\_\_\_

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list Yes - CBL, Dual Laterolog/Gamma Ray/Caliper, and Photo Density/Compensated Neutron/Gamma Ray.

**NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.**

Perforated Intervals, Fracturing, or Stimulating:

Perforations: 7484' - 16,022' MD (1308 holes)

Frac'd w/ 14,000 gals 15% HCL Acid, 180,481 bbls Slick Water carrying 925,000# 100 mesh, 3,436,400# 40/70 and 2,011,000# 20/40 sand.

Plug Back Details Including Plug Type and Depth(s): N/A

<u>Formations Encountered:</u>	<u>Top Depth</u>	<u>Bottom Depth</u>
<u>Surface:</u>		
Big Lime	1,728'	1,837'
Big Injun	1,838'	2,232'
Fifty Foot Sand	2,233'	2,353'
Gordon	2,354'	2,638'
Fifth Sand	2,639'	2,687'
Bayard	2,688'	3,060'
Warren Transgressive	3,061'	3,333'
Speechley	3,334'	3,577'
Balltown	3,578'	4,087'
Bradford	4,088'	4,660'
Benson	4,661'	4,856'
Alexander	4,857'	5,046'
Elk	5,047'	5,629'
Rhinestreet	5,630'	6,482'
Sycamore	6,483'	6,822'
West River	6,823'	6,877'
Genundewa	6,878'	6,919'
Burkett	6,920'	6,946'
Tully	6,947'	7,067'
Hamilton	7,068'	7,138'
Marcellus	7,139'	7,186'

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State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas  
Well Operator's Report of Well Work

DATE: 1/23/2013  
API #: 47-033-05590

UPDATED

Farm name: Charles E Yeager Operator Well No.: Asbury Unit 3H

LOCATION: Elevation: 1350' Quadrangle: West Milford

District: Union County: Harrison  
Latitude: 5.090 Feet South of 39 Deg. 15 Min. 00 Sec.  
Longitude 9.700 Feet West of 80 Deg. 27 Min. 30 Sec.

Company: Antero Resources Appalachian Corp

Address: <u>1625 17th Street</u>	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
<u>Denver, CO 80202</u>	<u>20" 94#</u>	<u>40'</u>	<u>40'</u>	<u>38 Cu. Ft. Class A</u>
Agent: <u>CT Corporation System</u>	<u>13 3/8" 48#</u>	<u>542'</u>	<u>542'</u>	<u>753 Cu. Ft. Class A</u>
Inspector: <u>Tristan Jenkins</u>	<u>9 5/8" 36#</u>	<u>2,575'</u>	<u>2,575'</u>	<u>1048 Cu. Ft. Class A</u>
Date Permit Issued: <u>1/18/2012</u>	<u>5 1/2" 20#</u>	<u>12,470'</u>	<u>12,470'</u>	<u>3008 Cu. Ft. Class H</u>
Date Well Work Commenced: <u>5/21/2012</u>				
Date Well Work Completed: <u>8/24/2012</u>	<u>2 3/8" 4.7#</u>	<u>6,844'</u>		
Verbal Plugging: <u>N/A</u>				
Date Permission granted on: <u>N/A</u>				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): <u>7,179' TVD</u>				
Total Measured Depth (ft): <u>12,470' MD, 7,137' TVD (BHL)</u>				
Fresh Water Depth (ft.): <u>60'</u>				
Salt Water Depth (ft.): <u>est. 832'</u>				
Is coal being mined in area (N/Y)? <u>No</u>				
Coal Depths (ft.): <u>est. 178, 257', 295'</u>				
Void(s) encountered (N/Y) Depth(s) <u>N, N/A</u>				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Marcellus Pay zone depth (ft) 7139' TVD (Top)

Gas: Initial open flow        MCF/d Oil: Initial open flow N/A Bbl/d

Final open flow 10,468 MCF/d Final open flow N/A Bbl/d

Time of open flow between initial and final tests N/A Hours

Static rock Pressure 3600 psig (surface pressure) after        Hours

Second producing formation        Pay zone depth (ft)       

Gas: Initial open flow        MCF/d Oil: Initial open flow        Bbl/d

Final open flow        MCF/d Final open flow        Bbl/d

Time of open flow between initial and final tests        Hours

Static rock Pressure        psig (surface pressure) after        Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Lisa B. Butler  
Signature

1/23/2013  
Date

Were core samples taken? Yes \_\_\_\_\_ No X

Were cuttings caught during drilling? Yes X No \_\_\_\_\_

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list CBL

This is a subsequent well. Antero only runs wireline logs on the first well on a multi-pad (Stutler Unit 1H API# 47-033-05586). Please reference wireline logs submitted with Form WR-35 for Stutler Unit 1H.

**NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.**

Perforated Intervals, Fracturing, or Stimulating:

Perforations: 7,469-12,405' MD (1128 holes)

Frac'd w/ 8,500 gals 15% HCL Acid, 102,362 bbls Slick Water carrying 598,700# 100 mesh, 2,269,800# 40/70 and 1,430,300# 20/40 sand.

Plug Back Details Including Plug Type and Depth(s): N/A

<u>Formations Encountered:</u>	<u>Top Depth</u>	<u>Bottom Depth</u>
<u>Surface:</u>		
Big Lime	1,714'	1,826'
Big Injun	1,827'	2,099'
Gantz Sand	2,100'	2,223'
Fifty Foot Sand	2,224'	2,343'
Gordon	2,344'	2,624'
Fifth Sandstone	2,625'	3,325'
Speechley	3,326'	3,531'
Balltown	3,532'	4,081'
Bradford	4,082'	4,652'
Benson	4,653'	4,843'
Alexander	4,844'	5,036'
Elk	5,037'	5,607'
Rhinestreet	5,608'	6,487'
Sycamore SS	6,488'	6,750'
Sonyea	6,751'	6,828'
West River	6,829'	6,924'
Burket	6,925'	6,950'
Tully	6,951'	7,072'
Hamilton	7,073'	7,138'
Marcellus	7,139'	7,179' TVD

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State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas  
Well Operator's Report of Well Work

DATE: 1/23/2013  
API #: 47-033-05592

UPDATED

Farm name: Sperry, Clarence E., Janet L., L. Diane Operator Well No.: AA Post Unit 1H

LOCATION: Elevation: 1169' Quadrangle: West Milford

District: Union County: Harrison  
Latitude: 2278 Feet South of 39 Deg. 15 Min. 00 Sec.  
Longitude 4351 Feet West of 80 Deg. 27 Min. 30 Sec.

Company: Antero Resources Appalachian Corp

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
1625 17th Street				
Denver, CO 80202	20" 94#	80'	80'	77 Cu. Ft. Class A
Agent: CT Corporation System	13-3/8" 54.5#	528'	528'	757 Cu. Ft. Class A
Inspector: Tristan Jenkins	9-5/8" 36#	2450'	2450'	1677 Cu. Ft. Class A
Date Permit Issued: 1/31/2012	5-1/2" 20#	15,341'	15,341'	3824 Cu. Ft. Class H
Date Well Work Commenced: 2/7/2012				
Date Well Work Completed: 4/21/2012	2-3/8" 4.7#	7058'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): 7,006' TVD				
Total Measured Depth (ft): 15344' MD, 6870' TVD (BHL)				
Fresh Water Depth (ft.): 50', 75'				
Salt Water Depth (ft.): 610'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): Pad on PGH strip bench. Sealed coal mine 1,850' to the NW of pad.				
Void(s) encountered (N/Y) Depth(s) N,N/A				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Marcellus Pay zone depth (ft) 6,965' TVD (Top)

Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow N/A Bbl/d

Final open flow 16,882 MCF/d Final open flow N/A Bbl/d

Time of open flow between initial and final tests N/A Hours

Static rock Pressure 3600 psig (surface pressure) after \_\_\_\_\_ Hours

Second producing formation \_\_\_\_\_ Pay zone depth (ft) \_\_\_\_\_

Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d

Final open flow \_\_\_\_\_ MCF/d Final open flow \_\_\_\_\_ Bbl/d

Time of open flow between initial and final tests \_\_\_\_\_ Hours

Static rock Pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Riva B. Hueli  
Signature

1/23/2013  
Date

Were core samples taken? Yes \_\_\_\_\_ No X

Were cuttings caught during drilling? Yes \_\_\_\_\_ No X

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list Yes- CBL

This is a subsequent well. Antero only runs wireline logs on the first well on a multi-pad (Post Unit 2H API# 47-033-05492). Please reference wireline logs submitted with Form WR-35 for Post Unit 2H.

**NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.**

Perforated Intervals, Fracturing, or Stimulating:

Perforations: 7,202' - 15,275' (1,644 holes)

Frac'd w/ 12,000 gals 15% HCL Acid, 197,290 bbls Slick Water carrying 890,420# 100 mesh,  
3,940,823 # 40/70 and 2,926,335# 20/40 sand.

Plug Back Details Including Plug Type and Depth(s): N/A

<u>Formations Encountered:</u>	<u>Top Depth</u>	<u>Bottom Depth</u>
<u>Surface:</u>		
Big Lime	1,504'	1,615'
Big Injun	1,616'	2,005'
Fifty Foot Sandstone	2,006'	2,142'
Gordon	2,143'	2,417'
Fifth Sandstone	2,418'	2,470'
Bayard	2,471'	3,139'
Speechley	3,140'	3,366'
Balltown	3,367'	3,850'
Bradford	3,851'	4,437'
Benson	4,438'	4,743'
Alexander	4,744'	4,826'
Elk	4,827'	6,282'
Sycamore	6,283'	6,552'
Sonyea	6,553'	6,559'
Middlesex	6,560'	6,652'
West River Shale	6,653'	6,705'
Genundewa	6,706'	6,747'
Burket	6,748'	6,775'
Tully	6,776'	6,894'
Hamilton	6,895'	6,964'
Marcellus	6,965'	7,006' TVD

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State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas  
Well Operator's Report of Well Work

DATE: 1/23/2013  
API #: 47-033-05632

UPDATED

Farm name: Yeager, Charles E Operator Well No.: George Unit 2H

LOCATION: Elevation: 1350' Quadrangle: West Milford

District: Union County: Harrison  
Latitude: 5,112 Feet South of 39 Deg. 15 Min. 00 Sec.  
Longitude 9,699 Feet West of 80 Deg. 27 Min. 30 Sec.

Company: Antero Resources Appalachian Corp

Address: 1625 17th Street	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Denver, CO 80202	20" 94#	40'	40'	38 Cu. Ft. Class A
Agent: CT Corporation System	13 3/8" 48#	332'	332'	461 Cu. Ft. Class A
Inspector: Tristan Jenkins	9 5/8" 36#	2,504'	2,504'	1020 Cu. Ft. Class A
Date Permit Issued: 6/7/2012	5 1/2" 20#	16,013'	16,013'	4003 Cu. Ft. Class H
Date Well Work Commenced: 6/18/2012				
Date Well Work Completed: 8/30/2012	2 3/8" 4.7#	7,251'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): 7,187' TVD				
Total Measured Depth (ft): 16,013' MD				
Fresh Water Depth (ft.): 50', 75', 90', 111', 143'				
Salt Water Depth (ft.): 2,870'				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): 205', 284', 322'				
Void(s) encountered (N/Y) Depth(s) N, N/A				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

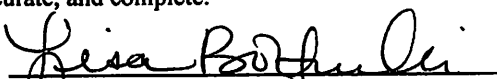
Producing formation Marcellus Pay zone depth (ft) 7130' TVD (Top)

Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow N/A E  
Final open flow 13,021 MCF/d Final open flow N/A Bbl/d  
Time of open flow between initial and final tests N/A Hours  
Static rock Pressure 3600 psig (surface pressure) after \_\_\_\_\_ Hours

Second producing formation \_\_\_\_\_ Pay zone depth (ft) \_\_\_\_\_

Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow \_\_\_\_\_ MCF/d Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests \_\_\_\_\_ Hours  
Static rock Pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

  
Signature

1/23/2013  
Date

Were core samples taken? Yes \_\_\_\_\_ No X

Were cuttings caught during drilling? Yes X No \_\_\_\_\_

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list Yes, CBL.

This is a subsequent well. Antero only runs wireline logs on the first well on a multi-pad (Stutler Unit 1H API# 47-033-05586). Please reference wireline logs submitted with Form WR-35 for Stutler Unit 1H.

**NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.**

Perforated Intervals, Fracturing, or Stimulating:

Perforations: 7,271-15,946' MD (1836 holes)

Frac'd w/ 13,500.gals 15% HCL Acid, 182,162 bbls Slick Water carrying 962,500# 100 mesh, 3,600,300# 40/70 and 2,142,000# 20/40 sand.

Plug Back Details Including Plug Type and Depth(s): N/A

<u>Formations Encountered:</u>	<u>Top Depth</u>	<u>Bottom Depth</u>
<u>Surface:</u>		
Fifth Sandstone	2,649'	2,699'
Bayard	2,700'	3,345'
Speechley	3,346'	3,592'
Balltown	3,593'	4,098'
Bradford	4,099'	4,672'
Benson	4,673'	4,870'
Alexander	4,871'	5,100'
Elk	5,101'	6,487'
Sycamore	6,488'	6,741'
Sonyea	6,742'	6,759'
Middlesex	6,760'	6,821'
West River Shale	6,822'	6,874'
Genundewa	6,875'	6,915'
Burkett	6,916'	6,943'
Tully	6,944'	7,129'
Marcellus	7,130'	7,187' TVD



WR-35  
Rev (8-10)

State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas  
Well Operator's Report of Well Work

DATE: \_\_\_\_\_  
API #: 47-4702818

Farm name: Berwind Land Company Operator Well No.: CBM-MC135

LOCATION: Elevation: 2,317.95' Quadrangle: War

District: Big Creek County: McDowell  
Latitude: 7,580 Feet South of 37 Deg. 17 Min. 30 Sec.  
Longitude 2,400 Feet West of 81 Deg. 42 Min. 30 Sec.

Company: CNX Gas Company LLC

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
2481 John Nash Blvd., Bluefield, WV 24701	13 3/8"	13'	13'	n/a
Agent: John H. Johnston	7"	380.69'	380.69'	125 sks
Inspector: Gary L. Kennedy	4 1/2"	1,796.27'	1,796.27'	120 sks
Date Permit Issued: 6/17/2011				
Date Well Work Commenced: 8/22/2011				
Date Well Work Completed: 8/25/2011				
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig				
Total Vertical Depth (ft): 1,990 DTD				
Total Measured Depth (ft):				
Fresh Water Depth (ft.): n/a				
Salt Water Depth (ft.): n/a				
Is coal being mined in area (N/Y)?				
Coal Depths (ft.):				
Void(s) encountered (N/Y) Depth(s)				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation NO OPEN FLOW TEST CONDUCTED Pay zone depth (ft) \_\_\_\_\_

Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d

Final open flow \_\_\_\_\_ MCF/d Final open flow \_\_\_\_\_ Bbl/d

Time of open flow between initial and final tests \_\_\_\_\_ Hours

Static rock Pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ Hours

Second producing formation \_\_\_\_\_ Pay zone depth (ft) \_\_\_\_\_

Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d

Final open flow \_\_\_\_\_ MCF/d Final open flow \_\_\_\_\_ Bbl/d

Time of open flow between initial and final tests \_\_\_\_\_ Hours

Static rock Pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

  
Signature

6/21/12  
Date

Were cuttings caught during drilling? Yes \_\_\_\_\_ No <sup>X</sup>

Were  $\frac{Y}{Y/N}$  Electrical,  $\frac{Y}{Y/N}$  Mechanical,  $\frac{Y}{Y/N}$  or Geophysical logs recorded on this well?

**NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.**

### Perforated Intervals, Fracturing, or Stimulating:

Formations Encountered:	Top Depth	/	Bottom Depth
Surface:			

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

COMPANY: CNX GAS CO. LLC  
 HOLE: MC-135  
 RIG: 90  
 LOCATION:

DATE STARTED: 8/22/2011  
 DATE COMPLETED: 8/25/2011

DEPTH FROM	THICKNESS TO	FT	STRATA DESCRIPTION, VOIDS ETC
0	13		13 OVERBURDEN
13	30		17 SAND/SHALE
30	60		30 SAND/SHALE
60	70		10 SAND/SHALE
70	72		2 COAL
72	90		18 SAND/SHALE
90	99		9 SAND
99	101		2 COAL
101	120		19 SAND/SHALE
120	150		30 SAND/SHALE
150	180		30 SAND/SHALE
180	210		30 SAND/SHALE
210	220		10 SAND/SHALE
220	222		2 COAL
222	240		18 SAND/SHALE
240	270		30 SAND/SHALE
270	300		30 SAND/SHALE
300	330		30 SAND/SHALE
330	360		30 SAND/SHALE
360	388		28 SAND/SHALE
388	390		2 COAL
390	400		10 SAND
400	430		30 SAND/SHALE
430	460		30 SAND/SHALE
460	489		29 SAND/SHALE
489	490		1 COAL
490	520		30 SAND/SHALE
520	548		28 SAND/SHALE
548	550		2 COAL
550	580		30 SAND/SHALE
580	610		30 SAND/SHALE
610	638		28 SAND/SHALE
638	640		2 COAL
640	670		30 SAND/SHALE
670	700		30 SAND/SHALE
700	730		30 SAND/SHALE
730	750		20 SAND/SHALE
750	752		2 COAL
752	760		8 SAND/SHALE
760	790		30 SAND/SHALE

790	820	30 SAND/SHALE
820	850	30 SAND/SHALE
850	880	30 SAND/SHALE
880	900	20 SAND
900	902	2 COAL
902	910	8 SAND
910	940	30 SAND/SHALE
940	970	30 SAND/SHALE
970	1000	30 SAND/SHALE
1000	1030	30 SAND/SHALE
1030	1032	2 COAL
1032	1060	28 SAND/SHALE
1060	1075	15 SAND/SHALE
1075	1076	1 COAL
1076	1090	14 SAND/SHALE
1090	1120	30 SAND/SHALE
1120	1150	30 SAND/SHALE
1150	1180	30 SAND/SHALE
1180	1210	30 SAND/SHALE
1210	1240	30 SAND/SHALE
1240	1270	30 SAND/SHALE
1270	1288	18 SAND/SHALE
1288	1290	2 COAL
1290	1300	10 SAND
1300	1330	30 SAND/SHALE
1330	1360	30 SANDY SHALE/SAND
1360	1387	27 SANDY SHALE
1387	1390	3 COAL
1390	1420	30 SANDY SHALE
1420	1434	14 SANDY SHALE
1434	1436	2 COAL
1436	1450	14 SANDY SHALE/SAND
1450	1480	30 SAND
1480	1510	30 SAND
1510	1540	30 SAND
1540	1545	5 SANDY SHALE
1545	1547	2 COAL P-3 ?
1547	1570	23 SANDY SHALE/SAND
1570	1600	30 SANDY SHALE/SAND
1600	1630	30 SAND
1630	1660	30 SANDY SHALE/SAND
1660	1690	30 SAND/SANDY SHALE
1690	1720	30 SAND/SANDY SHALE
1720	1743	23 SAND
1743	1745	2 COAL
1745	1750	5 SAND
1750	1780	30 SANDY SHALE/SAND
1780	1810	30 SAND
1810	1840	30 SSAND
1840	1870	30 SAND/SHALE
1870	1900	30 SAND/SHALE
1900	1930	30 SAND/SHALE

1930  
1960

1960  
1990

30 SAND/SHALE  
30 SAND/SHALE RED

1990 FT. TOTAL DEPTH  
13 FT. OF 13 3/8" CASING  
380.69 FT. OF 7" CASING  
1796.27 FT. OF 4 1/2" CASING

WR-35  
Rev (8-10)

State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas  
Well Operator's Report of Well Work

DATE: \_\_\_\_\_  
API #: 47-4702820

Farm name: Berwind Land Company Operator Well No.: CBM-MC137

LOCATION: Elevation: 2,302.66' Quadrangle: War

District: Big Creek County: McDowell  
Latitude: 7.000 Feet South of 37 Deg. 17 Min. 30 Sec.  
Longitude 3.880 Feet West of 81 Deg. 42 Min. 30 Sec.

Company: CNX Gas Company LLC

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
2481 John Nash Blvd., Bluefield, WV 24701	13 3/8"	13'	13'	n/a
Agent: John H. Johnston	7"	379.85'	379.85'	100 sks
Inspector: Gary L. Kennedy	4 1/2"	1,830.87'	1,830.87'	120 sks
Date Permit Issued: 6/17/2011				
Date Well Work Commenced: 8/25/2011				
Date Well Work Completed: 8/29/2011				
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig				
Total Vertical Depth (ft): 1,990 DTD				
Total Measured Depth (ft):				
Fresh Water Depth (ft.): n/a				
Salt Water Depth (ft.): n/a				
Is coal being mined in area (N/Y)?				
Coal Depths (ft.):				
Void(s) encountered (N/Y) Depth(s)				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation NO OPEN FLOW TEST CONDUCTED Pay zone depth (ft) \_\_\_\_\_

Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d

Final open flow \_\_\_\_\_ MCF/d Final open flow \_\_\_\_\_ Bbl/d

Time of open flow between initial and final tests \_\_\_\_\_ Hours

Static rock Pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ Hours

Second producing formation \_\_\_\_\_ Pay zone depth (ft) \_\_\_\_\_


Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d

Final open flow \_\_\_\_\_ MCF/d Final open flow \_\_\_\_\_ Bbl/d

Time of open flow between initial and final tests \_\_\_\_\_ Hours

Static rock Pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

  
Signature

6/21/12  
Date

Were cuttings caught during drilling? Yes \_\_\_\_\_ No X

**NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.**

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

COMPANY: CNX GAS CO. LLC  
 HOLE: MC-137  
 RIG: 93  
 LOCATION: HURRICANE BRANCH, VA

DATE STARTED: 8/25/2011  
 DATE COMPLETED: 8/29/2011

DEPTH FROM	THICKNESS TO	FT	STRATA DESCRIPTION, VOIDS ETC
0	13	13	13 OVERBURDEN
13	30	17	SAND/SHALE
30	37	7	SAND/SHALE
37	39	2	COAL
39	60	21	SAND/SHALE
60	90	30	SAND/SHALE
90	120	30	SAND/SHALE
120	135	15	SAND/SHALE
135	137	2	COAL
137	150	13	SAND/SHALE
150	180	30	SAND/SHALE
180	210	30	SAND/SHALE
210	240	30	SAND/SHALE
240	257	17	SAND/SHALE
257	258	1	COAL
258	270	12	SAND/SHALE
270	300	30	SAND/SHALE
300	330	30	SAND/SHALE
330	360	30	SAND/SHALE
360	390	30	SAND/SHALE
390	400	10	SAND
400	430	30	SANDY SHALE/SAND
430	450	20	SANDY SHALE
450	452	2	COAL
452	460	8	SANDY SHALE
460	490	30	SANDY SHALE/SAND
490	530	40	SANDY SHALE/SAND
530	550	20	SANDY SHALE
550	580	30	SAND/SANDY SHALE
580	587	7	SANDY SHALE
587	590	3	COAL
590	610	20	SANDY SHALE
610	640	30	SANDY SHALE/SAND
640	660	20	SANDY SHALE
663	667	4	SANDY SHALE/COAL
667	670	3	SANDY SHALE
670	700	30	SANDY SHALE/SAND
700	730	30	SAND/SHALE
730	760	30	SAND/SHALE
760	780	20	SAND/SHALE



780	782	2 COAL
782	790	8 SAND
790	820	30 SAND/SHALE
820	850	30 SAND/SHALE
850	880	30 SAND/SHALE
880	910	30 SAND/SHALE
910	940	30 SAND/SHALE
940	970	30 SAND/SHALE
970	1000	30 SAND/SHALE
1000	1015	15 SAND/SHALE
1015	1017	2 COAL
1017	1030	13 SAND/SHALE
1030	1048	18 SAND/SHALE
1048	1050	2 COAL
1050	1060	10 SAND/SHALE
1060	1090	30 SAND/SHALE
1090	1120	30 SAND/SHALE
1120	1150	30 SAND/SHALE
1150	1180	30 SAND/SHALE
1180	1210	30 SAND/SHALE
1210	1238	28 SAND/SHALE
1238	1240	2 COAL
1240	1270	30 SAND/SHALE
1270	1300	30 SAND/SHALE
1300	1330	30 SAND/SHALE
1330	1360	30 SAND/SHALE
1360	1375	15 SAND/SHALE
1375	1377	2 COAL
1377	1390	13 SAND/SHALE
1390	1420	30 SAND/SHALE
1420	1450	30 SAND/SHALE
1450	1480	30 SANDY SHALE/SAND
1480	1510	30 SAND/SANDY SHALE
1510	1540	30 SANDY SHALE/SAND
1540	1558	18 SANDY SHALE
1558	1561	3 COAL P-3?
1561	1570	9 SANDY SHALE
1570	1600	30 SAND
1600	1630	30 SAND/SANDY SHALE
1630	1660	30 SAND/SANDY SHALE
1660	1690	30 SANDY SHALE/SAND
1690	1720	30 SAND
1720	1750	30 SAND
1750	1780	30 SAND/SHALE
1780	1810	30 SAND/SHALE
1810	1840	30 SAND/SHALE
1840	1870	30 SAND/SHALE
1870	1900	30 SAND/SHALE
1900	1930	30 SAND/SHALE
1930	1960	30 SAND/SHALE
1960	1990	30 SAND/SHALE/RED

1990 FT. TOTAL DEPTH  
13 FT. OF 13 3/8" CASING  
379.85 FT. OF 7" CASING  
1830.87 FT. OF 4 1/2" CASING

315 21

315 21

State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas  
Well Operator's Report of Well Work

DATE: 07/31/2012  
API #: 47-091-01222

Farm name: Anderson, Rodney J. & Deborah A. Operator Well No.: Rodney J. Anderson 4HM

LOCATION: Elevation: 1377' GL / 1395' KB Quadrangle: Grafton 7.5'

District: Court House County: Taylor  
Latitude: 15,326 Feet South of 39° Deg. 20 Min. 00 Sec.  
Longitude 7,465 Feet West of 80° Deg. 02 Min. 30 Sec.

Company: PDC Mountaineer

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
<u>120 Genesis Blvd.</u>				
<u>Bridgeport, WV 26330</u>	<u>20"</u>	<u>42'</u>	<u>42'</u>	<u>Sand In</u>
Agent: <u>Bob Williamson</u>	<u>13 3/8"</u>	<u>470'</u>	<u>470'</u>	<u>433</u>
Inspector: <u>Bryan Harris</u>	<u>9 5/8"</u>	<u>2790'</u>	<u>2790'</u>	<u>1,138</u>
Date Permit Issued: <u>05/11/2011</u>	<u>5 1/2"</u>	<u>12,838'</u>	<u>12,838'</u>	<u>3,402</u>
Date Well Work Commenced: <u>05/27/2011</u>				
Date Well Work Completed: <u>11/23/2011</u>				
Verbal Plugging:				
Date Permission granted on:	<u>2 7/8"</u>		<u>2481'</u>	
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): <u>7,863'</u>				
Total Measured Depth (ft): <u>12,863'</u>				
Fresh Water Depth (ft.): <u>38', 115'</u>				
Salt Water Depth (ft.): <u>830'</u>				
Is coal being mined in area (N/Y)? <u>N</u>				
Coal Depths (ft.): <u>Air Drilled - Unknown</u>				
Void(s) encountered (N/Y) Depth(s) <u>N</u>				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Marcellus Shale Pay zone depth (ft) 7882' TVD

Gas: Initial open flow N/A MCF/d Oil: Initial open flow --- Bbl/d

Final open flow 4,220.4 MCF/d Final open flow --- Bbl/d

Time of open flow between initial and final tests 720 Hours

Static rock Pressure 2250 psig (surface pressure) after 72 Hours

Second producing formation N/A Pay zone depth (ft) ---

Gas: Initial open flow --- MCF/d Oil: Initial open flow --- Bbl/d

Final open flow --- MCF/d Final open flow --- Bbl/d

Time of open flow between initial and final tests --- Hours

Static rock Pressure --- psig (surface pressure) after --- Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete.



Signature

01/25/2013

Date

Office of Oil & Gas  
JAN 28 2013

Were core samples taken? Yes \_\_\_\_\_ No XX

Were cuttings caught during drilling? Yes XX No \_\_\_\_\_

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list Mudlog, Directional Surveys,  
TVD & MD Gamma Ray LWD (limited depth), Cased Hole Sonic Scanner log with Bond Log & CCL to 7520'. No logs run above 7209'.

**NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.**

Perforated Intervals, Fracturing, or Stimulating:

Perforated interval 8,225 ft - 12,772 ft (670 shots). Frac'd 14 stages using 333 bbls 15% HCL, 118,700 bbls of Slickwater carrying 1,124,300 lbs of 100-mesh sand, 4,458,400 lbs of 40/70 sand, and 332,400 lbs of 30/50 sand.

Plug Back Details Including Plug Type and Depth(s): N/A

Formations Encountered: \_\_\_\_\_ Top Depth \_\_\_\_\_ / \_\_\_\_\_ Bottom Depth  
Surface: \_\_\_\_\_

Big Lime(est)	*1562	1641
Gantz (est)	1994	2016
50 Foot (est)	2045	2100
30 Foot (est)	2108	2134
Gordon (est)	2231	2259
4thSand(est)	2478	2567
5th Sand (est)	2583	2622
Benson (est)	4497	4550
Sycamore Grit (from logs)	6793'	6921'
Geneseo/Burket Shale	7541'	7556'
Tully LS	7556'	7711'
Hamilton Group	7711'	7789'
Marcellus SH	7789'	Not Drilled
Est fm. tops based on 47-091-00809	TD: 7,817' TVD / 12,863' MD	

KOP at 7209' MD / 7135' TVD LP at 8352' MD / 7863' TVD \*All measurements are taken from KB and are TVD unless noted as MD.

Received  
Office of Oil & Gas  
JAN 28 2015

WR-35  
Rev (9-11)

State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas  
Well Operator's Report of Well Work

DATE: 07/31/2012  
API #: 47-091-01223

Farm name: Anderson, Rodney J. & Deborah A. Operator Well No.: Rodney J. Anderson 2HM

LOCATION: Elevation: 1377' GL / 1395' KB Quadrangle: Grafton 7.5'

District: Court House County: Taylor  
Latitude: 135 Feet South of 39° Deg. 17 Min. 30 Sec.  
Longitude 7,458 Feet West of 80° Deg. 02 Min. 30 Sec.

Company: PDC Mountaineer

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
<u>120 Genesis Blvd.</u>				
<u>Bridgeport, WV 26330</u>	<u>20"</u>	<u>42'</u>	<u>42'</u>	<u>419</u>
Agent: <u>Bob Williamson</u>	<u>13 3/8"</u>	<u>471'</u>	<u>471'</u>	<u>433</u>
Inspector: <u>Bryan Harris</u>	<u>9 5/8"</u>	<u>2789'</u>	<u>2789'</u>	<u>1,138</u>
Date Permit Issued: <u>05/11/2011</u>	<u>5 1/2"</u>	<u>13,970'</u>	<u>13,970'</u>	<u>3,401</u>
Date Well Work Commenced: <u>06/06/2011</u>				
Date Well Work Completed: <u>11/22/2011</u>				
Verbal Plugging:				
Date Permission granted on:	<u>2 7/8"</u>		<u>2615'</u>	
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): <u>7,894'</u>				
Total Measured Depth (ft): <u>13,970'</u>				
Fresh Water Depth (ft.): <u>38', 115'</u>				
Salt Water Depth (ft.): <u>830'</u>				
Is coal being mined in area (N/Y)? <u>N</u>				
Coal Depths (ft.): <u>Air Drilled - Unknown</u>				
Void(s) encountered (N/Y) Depth(s) <u>N</u>				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Marcellus Shale Pay zone depth (ft) 7894' TVD

Gas: Initial open flow N/A MCF/d Oil: Initial open flow --- Bbl/d

Final open flow 3,634.2 MCF/d Final open flow --- Bbl/d

Time of open flow between initial and final tests 720 Hours

Static rock Pressure 1650 psig (surface pressure) after 72 Hours

Second producing formation N/A Pay zone depth (ft) ---

Gas: Initial open flow --- MCF/d Oil: Initial open flow --- Bbl/d

Final open flow --- MCF/d Final open flow --- Bbl/d

Time of open flow between initial and final tests --- Hours

Static rock Pressure --- psig (surface pressure) after --- Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete.



Signature

01/25/2013

Date

Office of Oil & Gas  
JAN 28 2013

Were core samples taken? Yes \_\_\_\_\_ No XX

Were cuttings caught during drilling? Yes XX No \_\_\_\_\_

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list Mudlog, Directional Surveys,  
TVD & MD Gamma Ray LWD (limited depth), Cased Hole Sonic Scanner log with Bond Log & CCL to 7993'. No logs run above 6462'.

**NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.**

Perforated Intervals, Fracturing, or Stimulating:

Perforated interval 8,936 ft - 13,883 ft (750 shots). Frac'd 15 stages using 357 bbls 15% HCL, 124,400 bbls of Slickwater carrying 1,151,100 lbs of 100-mesh sand, 4,496,200 lbs of 40/70 sand, and 236,800 lbs of 30/50 sand.

Plug Back Details Including Plug Type and Depth(s): N/A

Formations Encountered:                      Top Depth                      /                      Bottom Depth  
Surface:

Big Lime(est)	*1562	1641
Gantz (est)	1994	2016
50 Foot (est)	2045	2100
30 Foot (est)	2108	2134
Gordon (est)	2231	2259
4th Sand (est)	2478	2567
5th Sand (est)	2583	2622
Benson (est)	4497	4550
Sycamore Grit (from logs)	6793'	6936'
Geneseo/Burket Shale	7550'	7566'
Tully LS	7566'	7655'
Hamilton Group	7655'	7789'
Marcellus SH	7802'	Not Drilled
Est fm. tops based on 47-091-00809	TD: 7,887' TVD / 13,970' MD	

KOP at 6527' LP at 8981'MD / 7894' TVD

\* All measurements are taken from KB and are TVD unless noted as MD.

Received  
Office of Oil & Gas  
JAN 23 2010

State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas  
Well Operator's Report of Well Work

DATE: 07/31/2012  
API #: 47-091-01228

Farm name: Anderson, Rodney J. & Deborah A. Operator Well No.: Rodney J. Anderson 5HM

LOCATION: Elevation: 1377' GL / 1395' KB Quadrangle: Grafton 7.5'

District: Court House County: Taylor  
Latitude: 149 Feet South of 39° Deg. 17 Min. 30 Sec.  
Longitude: 7,484 Feet West of 80° Deg. 02 Min. 30 Sec.

Company: PDC Mountaineer

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
<u>120 Genesis Blvd.</u>				
<u>Bridgeport, WV 26330</u>	<u>20"</u>	<u>42'</u>	<u>42'</u>	<u>Sand In</u>
Agent: <u>Bob Williamson</u>	<u>13 3/8"</u>	<u>470'</u>	<u>470'</u>	<u>672</u>
Inspector: <u>Bryan Harris</u>	<u>9 5/8"</u>	<u>2780'</u>	<u>2780'</u>	<u>1,009</u>
Date Permit Issued: <u>05/20/2011</u>	<u>5 1/2"</u>	<u>13,640'</u>	<u>13,640'</u>	<u>3,615</u>
Date Well Work Commenced: <u>06/15/2011</u>				
Date Well Work Completed: <u>11/22/2011</u>				
Verbal Plugging:				
Date Permission granted on:	<u>2 7/8"</u>		<u>2529'</u>	
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): <u>7,886'</u>				
Total Measured Depth (ft): <u>13,640'</u>				
Fresh Water Depth (ft.): <u>155'</u>				
Salt Water Depth (ft.): <u>870'</u>				
Is coal being mined in area (N/Y)? <u>N</u>				
Coal Depths (ft.): <u>Air Drilled - Unknown</u>				
Void(s) encountered (N/Y) Depth(s) <u>N</u>				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Marcellus Shale Pay zone depth (ft) 7882' TVD

Gas: Initial open flow N/A MCF/d Oil: Initial open flow --- Bbl/d

Final open flow 4,220.4 MCF/d Final open flow --- Bbl/d

Time of open flow between initial and final tests 720 Hours

Static rock Pressure 1750 psig (surface pressure) after 72 Hours

Second producing formation N/A Pay zone depth (ft) ---

Gas: Initial open flow --- MCF/d Oil: Initial open flow --- Bbl/d

Final open flow --- MCF/d Final open flow --- Bbl/d

Time of open flow between initial and final tests --- Hours

Static rock Pressure --- psig (surface pressure) after --- Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete.

  
Signature

01/25/2013  
Date

Office of Oil and Gas  
JAN 28 2013

Were core samples taken? Yes \_\_\_\_\_ No XX

Were cuttings caught during drilling? Yes XX No \_\_\_\_\_

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list Mudlog , Directional Surveys, TVD & MD Gamma Ray LWD (limited depth), Cased Hole Sonic Scanner log with Bond Log & CCL to 8020'. No logs run above 6112'.

**NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.**

Perforated Intervals, Fracturing, or Stimulating:

Perforated interval 8,452 ft - 13,536 ft (790 shots). Frac'd 16 stages using 381 bbls 15% HCL, and 132,900 bbls of Slickwater carrying 1,274,400 lbs of 100-mesh sand, 4,900,200 lbs of 40/70 sand, and 335,100 lbs of 30/50 sand.

Plug Back Details Including Plug Type and Depth(s): N/A

Formations Encountered: \_\_\_\_\_ Top Depth \_\_\_\_\_ / \_\_\_\_\_ Bottom Depth  
Surface: \_\_\_\_\_

Big Lime(est)	*1562	1641
Gantz (est)	1994	2016
50 Foot (est)	2045	2100
30 Foot (est)	2108	2134
Gordon (est)	2231	2259
4th Sand (est)	2478	2567
5th Sand (est)	2583	2622
Benson (est)	4497	4550
Sycamore Grit	6798'	6923'
Geneseo/Burket Shale	7551'	7565'
Tully LS	7565'	7654'
Hamilton Group	7655'	7789'
Marcellus SH	7802'	Not Drilled
Est fm. tops based on 47-091-00809	TD: 7,886' TVD / 13,640' MD	

KOP at 7455' MD / 7341' TVD LP at 8564' MD / 7882' TVD \* All measurements are taken from KB and are TVD unless noted as MD.

Received  
Office of Oil & Gas  
JAN 24 2011



WR-35  
Rev (8-10)

State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas  
Well Operator's Report of Well Work

DATE: 4-25-2011  
API #: 47-103-02484

Farm name: Saber 8H Operator Well No.: 627263

LOCATION: Elevation: 1320 GL Quadrangle: Wileyville

District: Proctor County: Wetzel  
Latitude: 5315 ft Feet South of 39 Deg. 42 Min. 30 Sec.  
Longitude 1276 ft Feet West of 80 Deg. 40 Min. 00 Sec.

Company: Chesapeake Appalachia, LLC

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
P.O. Box 18496, Oklahoma City, OK 73154	20"	52'	52'	driven
Agent: <u>Eric Gillespie</u>	13 3/8"	1245'	1245'	1,333 cf
Inspector: <u>David Scranage</u>	9 5/8"	2,650'	2,651'	1,145 cf
Date Permit Issued: <u>7/8/2009</u>	5 1/2"	13,311'	1,954'	1,954 cf
Date Well Work Commenced: <u>3/10/2010</u>				
Date Well Work Completed: <u>1/12/2011</u>				
Verbal Plugging:				
Date Permission granted on:				
Rotary X Cable Rig				
Total Vertical Depth (ft): <u>7130</u>				
Total Measured Depth (ft): <u>13,256</u>				
Fresh Water Depth (ft.): <u>330</u>				
Salt Water Depth (ft.): <u>none</u>				
Is coal being mined in area (N/Y)? <u>no</u>				
Coal Depths (ft.): <u>900-907, 1108, 1176</u>				
Void(s) encountered (N/Y) Depth(s) <u>N</u>				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Marcellus Pay zone depth (ft) 7,289'-13,226'

Gas: Initial open flow 5671 MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d

Final open flow \_\_\_\_\_ MCF/d Final open flow \_\_\_\_\_ Bbl/d

Time of open flow between initial and final tests \_\_\_\_\_ Hours

Static rock Pressure 4635 psig (surface pressure) after \_\_\_\_\_ Hours

Second producing formation \_\_\_\_\_ Pay zone depth (ft) \_\_\_\_\_

Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d

Final open flow \_\_\_\_\_ MCF/d Final open flow \_\_\_\_\_ Bbl/d

Time of open flow between initial and final tests \_\_\_\_\_ Hours

Static rock Pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Bonnie Driggs  
Signature

4-25-2011  
Date

Were cuttings caught during drilling? Yes<sup>X</sup> No

**NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.**

(see attached)

(see attached)

**Well Name and Number: Saber 8H**

[illegible]

FORMATIONS ENCOUNTERED	TOP DEPTH (FT)	BOTTOM DEPTH (FT)
SHALE/SAND	0	500
SHALE	500	1040
SHALE/SAND	1040	1100
SHALE/LIMESTONE	1100	1108
SANDSTONE	1108	1130
SANDSTONE/COAL	1130	1176
PITTSBURGH COAL	1176	1190
SHALE/LIMESTONE	1190	1420
SAND/SHALE	1420	1851
SALT SANDS	1851	1860
SAND/SHALE	1860	2080
MAXTON	2080	2140
SAND/SHALE	2140	2250
BIG LIME	2250	2290
BIG INJUN	2290	2530
SHALE	2530	6770
SHALE/LIMESTONE	6770	6830
SHALE	6830	7015
TULLY LIME	7015	7059
HAMILTON	7059	7227
MARCELLUS	7227	N/A
TD		13256